

VITTA, O.

Determining the period for which the parameters of hydraulic constructions should be planned. p. 225

VODNI HOSPODARSTVI (Ustredni sprava vodniho hospodarstvi)
No. 9, Sept. 1956

Praha, Czechoslovakia

SOURCE: East European List (EEL) Library of
Congress, Vol. 6, No. 1, January 1957

VITHA. O.

Method of computing an efficient balance in the electric-power scheme and an outline of the most favorable plan of operation as well as of a parameter of hydroelectric plants. p. 317

TECHNICKA PRACA. Czechoslovakia, Vol. 7, No. 7, July 1955

Monthly List of East European Accessions (EEAI), LC., Vol. 8, No. 9, September 1959
uncl.

VITHA, O., inz.

New methods of river flow control by reservoirs. Vodni hosp 13
no.6:236-238 '63.

VITHA, OLDRICH

Stavby komunizmu; vel'ky boj soviets-keho l'udu. [Z ceskeho originalu prel. Eduard
Srbecky. Vyd. 1.] Bratislava, Svet socializmu, 1952. 47 p. [Constructions of
communism, a great struggle of the Soviet people. Tr. from the Czech]

SO: MONTHLY LIST OF EAST EUROPEAN ACCESSIONS, LC., VOL. 3, No. 1, Jan. 1954, Uncl.

GOKHMAN, I.S.; VITIN, A.G.

Considering the time factor in determining the economic
efficiency of capital investments. Sbor.trud.Otd. tekhn.-ekon.
issl. TSNIICHM no. 1:99-117 '63. (MIRA 17:6)

AUTHOR: Vitin, G.V. and Zernakov, A.F.

133-5-20/27

TITLE: On the production of bent profiles. (O proizvodstve gnutykh profiley)

PERIODICAL: "Stal'" (Steel), No.5, pp. 458-463 (U.S.S.R.)

ABSTRACT: Economic advantages of the production of bent profiles (shapes) are discussed. It is pointed out that in the USSR this branch of the industry is little developed. The Iron and Steel Ministry was informed by Gipromez of the requirements of various industries which was estimated to amount to 800 000 tons in 1960. The technology of production of bent profiles is outlined. The diagram of a roller bending mill is shown in Fig. 1. Profiles, the production of which is planned in the sixth Five Year Plan, are shown in Figs. 2 and 3 and their dimensions in Table 1. Main characteristics of roller bending mills are given in Table 2 and their output in Table 3. Cost of construction of building special mills on the Magnitogorsk Metallurgical Combine (Magnitogorskiy Metallurgicheskiy Kombinat) (350 000 tons/year) 56 million Roubles and on the Karagandisk Works (200 000 tons/year) 34.8 million Roubles. It is considered that the production of 800 000 tons/year of bent profiles will give an economy in the consumption of metal

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On the production of bent profiles. (Cont.) 133-5-20/27
of 200 000 tons/year and thus the cost of building special
mills will be covered in 2.5 years. There are 3 tables
and 3 figures.

ASSOCIATION: Gipromez

AVAILABLE:

Card 2/2

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SOV/133-60-1-28/30

AUTHOR: Vitin, G. V.

TITLE: Efficiency of Continuous Casting of Steel Under Conditions of a New Plant

PERIODICAL: Stal', 1960, Nr 1, pp 84-88 (USSR)

ABSTRACT: Continuous casting has become the subject of increasing interest in the Soviet Union as well as abroad (see Skelley, H. E., Easton, R., Iron and Steel Engineer, 1958, Nr 5), since it provides the possibility of large-scale mechanization and automation. The author investigated the theoretical possibility of producing 800-1,550 mm wide, 5,800-6,300 mm long, and 150-200 mm thick slabs by continuous casting in a large metallurgical plant (not identified) which specializes in sheet production; he then compared his findings with the actual production of a plant with a yearly output of 4,200,000 tons of steel. The author assumes that the open-hearth shop would require 5 four-strand continuous casting units and the converter

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Efficiency of Continuous Casting of
Steel Under Conditions of a New Plant

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SOV/133-50-1-28/30

shop 4 two-strand units. Mean rate of casting: 0.7 m/min, casting period for a 270-ton ladle: 75 min; and a 90-ton ladle: 50 min. The units are to be set up in a pit-type arrangement. With the introduction of continuous casting, the following units are eliminated: (1) one open-hearth furnace, (2) one mixer department, (3) stripping department, (4) department for the preparation of ingot molds (5) slab mill with soaking pits in rolling shop. The casting bay must be increased from 24 to 30 m. Changes would have to be made in the main converter shop. Consequently, the floor area of the steelmelting shop is reduced by over 5% and the weight of equipment by 13%. The rolling shop area is decreased by almost 25% and the weight of equipment in that shop by 25%. The total plant area may be decreased by 11%, railroad tracks shortened by 14 km, and cost for ingot scrap and refractory transport considerably cut. However, a special workshop for the production and repair of crystallizers would have to be built. Gas cost is also cut due to decreased consumption by steelmelting

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Efficiency of Continuous Casting of
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and hot rolling shops. The combined maximum electric load is estimated to be 4% less, but water consumption increases by 60-65%. Great saving is achieved by the reduced number of service personnel, i.e., 570 persons less than in plants without continuous casting. Productivity of labor is increased by 24% in shops that work directly with the continuous casting units and by 3-4% in the whole plant. The initial cost of cast slabs is lower than that of rolled slabs resulting in an estimated saving of 75 million rubles per year. According to investigations conducted by the Central Scientific Research Institute of Ferrous Metallurgy (TsNIICHM) the quality of cast slabs fully meets the requirements for sheets from rolled slabs. Capital investments are hardly changed but the economy in cast iron and steelmelting results in a saving of 200 million rubles. However, the author emphasizes the need for verification of the theoretical data in practice. Moreover, an organized mass production of

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cast slabs requires thorough preparation and consideration of the working experience of large-size installations for continuous casting which are currently being built. The author believes that it is premature to plan a large metallurgical plant without a roughing mill and that further research in that field is required. There are 2 figures; and 1 U.S. reference (given in the text).

ASSOCIATION: State Institute for the Design and Planning of Metallurgical Plants (Gipromez)

Card 4/4

FILICHKIN, I.F.; KUKURUZYAK, I.S.; ZEL'TSER, I.G.; VITIN, G.V.;
LIFSHITS, A.G.

Open-hearth furnaces or oxygen converters. Stal' 21 no.9:
792-798 S '61. (MIRA 14:9)

1. Cherepovetskiy metallurgicheskiy zavod (for Filichkin).
2. Zavod "Krivorozhstal'" (for Kukuruznyak, Zel'tser).
3. Gosudarstvennyy soyuznyy institut po proyektirovaniyu metallurgicheskikh zavodov (for Vitin, Lifshits).
(Open-hearth furnaces) (Converters)

SOV/137-57-10-19191

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 10, p 107 (USSR)

AUTHOR: Vitin, G.V.

TITLE: Organizing the Production of Bent Shapes (Ob organizatsii
proizvodstva gnutykh profiley)

PERIODICAL: V sb.: Ratsionalizatsiya profiley prokata. Moscow, Profiz-
dat, 1956, pp 224-226

ABSTRACT: The perspectives for the production of bent shapes at plants
now in existence and new ones to be built, are discussed.
Ya.O.

Card 1/1

VITIN, G.V.

~~Steps~~ in the expansion of old Ural plants. Stal' 16 no.2:161-166
F '56. (MLRA 9:5)

1. Gipromex.
(Ural mountain region--Metallurgical plants)

BARLAS, Ye.V.; TOPOLYANSKAYA, S.I.; KATS-CHEMNOKHVESTOVA, L.Ya., professor, savednyushchiy; VITINA, R.G., savednyushchiy.

Phage typing of typhoid fever cultures isolated from carriers; author's abstract. Zhur.mikrobiol.epid.i immun. no.9:26-27 8 '53. (MLRA 6:11)

1. Kafedra epidemiologii i Moskovskogo ordena Lenina meditsinskogo instituta (for Kats-Chernokhvostova). 2. Punkt po obsledovaniyu na nositel'stvo vzbuditeley kishhechnykh infektsiy pri Kirovskoy rayonnoy sanitarno-epidemiologicheskoy stantsii Moskvy (for Vitina). (Typhoid fever)

VITINE, A.I.

Etiology of multiple sclerosis according to data of morphological studies of the central nervous system. Neur. neur. 1981. no.11:1641-1645 '86.

1. Kafedra nervnykh bolezney (naveduyemiy na prof. N.I. Chetverikov) Tsentral'naya instituta urolologicheskoy i nefrologicheskoy, Moskva.

KONCHAKOVA, Ye.I.; VITING, A.I.

Pathogenesis of acute disorders in the cerebral circulation in
rheumatic fever, Vop. revm. 3 no.3:9-17 JI-S'63 (MIRA 17:3)

1. Iz 1-go klinicheskogo otdeleniya (zav. - prof. Z.L. Lur'ye)
Instituta nevrologii (dir. - prof. N.V. Kononov) AMN SSSR.

KARELYANSKAYA, L.G.; VITING, A.I.

Problem of so-called "transcortical" sensory aphasia [with summary
in French]. Zhur.nevr. i psikh. 58 no.1:39-45 '58. (MIRA 11:2)

1. Institut neurologii (dir. - prof. N.V.Konovalov) AMN SSSR, Moskva.
(APHASIA, case reports,
transcortical sensory(Rus))

VITING A. I.

ROBINZON, I.A.; BIBIKOVA, A.F.; POPOVA, L.M.; VITING, A.I.; YUHOVETSKAYA, A.L.

Certain peculiarities of histopathology of experimental poliomyelitis.
Zh. nevropat. psikhiat., Moskva 53 no.3:225-231 Mar 1953. (CML 25:1)

1. Institute of Neurology of the Academy of Medical Sciences USSR.

EXCERPTA MEDICA Sec 8 Vol 12/4 NEUROLOGY Apr 59

1820. CONTRIBUTION TO THE PROBLEM OF THE TRANSCORTICAL SENSORY APHASIA (Russian text) - Kabeianskaya L.G. and Viting A.I. - ZH. NEVROPAT. I PSKHAT. 1958, 58/1 (39-45) illus. 4

The case of a 67-year-old patient with transcortical sensory aphasia, by whom, at autopsy, the softenings of the anterior part of the first and second left temporal convolution and left occipital region were found without any deterioration of Wernicke's centre. The pathophysiological mechanism of this aphasia therefore consists of a lesion in the junction of the sensory analyzer of speech with other analyzers.

Herman - Lodz

TSUKER, M. B.; VITING, A. I. (Moskva)

Rheumatic lesions of the brain (some pathogenic problems).
Klin. med. no.9:44-49 '61. (MIRA 15:6)

1. Iz kafedry nervnykh bolezney Tsentral'nogo instituta usovershenstvovaniya vrachev (dir. M. D. Kovrigina)

(BRAIN--DISEASES) (RHEUMATIC FEVER)

AVTSYN, A.P.; SEIGENOV, B.F.; VITING, A.I.

Morphological changes in white mice following Miyagawanella
ornithosis intoxication. Vop.virus. 4 no.3:289-293 My-Je
'59. (MIRA 12:8)

1. Institut po izucheniyu poliomyelita i patologoanatomiche-
skoye otdeleniye Klinicheskoy infektsionnoy bol'nitsy No.1.
(ORNITHOSIS, exper.

pathol. reactions to toxic doses of Miyaga-
wanella ornithosis in white mice (rus))

L 14943-63

ENT 1/2/63 ENT 1/2/63

9/0075/63/018/007/0865/0872

ACCESSION NR: AP5003761

AUTHORS: Chepel', L. V.; Chapyzhnikov, B. A.; Viting, B. I.TITLE: Radioactivation method for determining oxygen in some polymers

SOURCE: Zhurnal analiticheskoy khimii, v. 18, no. 7, 1963, 865-872

TOPIC TAGS: radioactivation method, oxygen, polymer, photonuclear reaction, O sup 15, linear electron accelerator, C sup 11

ABSTRACT: This is a continuation of studies which authors previously conducted with respect to developed radioactivation method for determining oxygen which was suitable to be applied to other objects (metals and semiconductors). Authors state that a further augmentation of the methods sensitivity can be attained by using powerful sources of electromagnetic radiation (linear electron accelerators) and by perfecting the measurement of the activity of O^{15} on the "background" of other isotopes which are formed in the analyzed material by photonuclear reactions. Present work is devoted to an examination of a special method for measuring the activity of the O^{15} isotope on the "background" of the C^{11} isotope. The photonuclear reaction $O^{16}(\gamma, n)O^{15}$, whose threshold is 15.6 Mev, forms the positron-active isotope O^{15} with a half-life period of 127 seconds and positron

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ACCESSION NR: AP3003761

energy of 1.68 Mev. The relationship of the reactions size to the Gamma-quanta energy is shown in a figure. This figure also contains the curve for the dependence of the size on the energy for the reaction $C^{12}(\text{Gamma}, n)C^{11}$ which forms the positron-active C^{11} isotope. Authors then discuss significance of the curves, which were obtained with radiation of various energy. The Gamma-radiation source was the betatron from the Physico-Chemical Institute. The analysed samples were irradiated inside of the betatron's acceleration chamber. The analysis method was worked out on samples of artificial and natural rubber. The activity of the sample was measured with a device consisting of a scintillation counter and recorder. The scintillation counter included a photoelectron multiplier and plastic scintillator. The samples were irradiated for 2 minutes, and after 30 seconds elapsed after termination of irradiation, the measurements of activity began. Data obtained was plotted onto a decay curve. A formula is given for computing the oxygen content. "Authors wish to thank A. S. Kuz'minskiy, A. Kh. Breger and V. F. Chertkova for a number of valuable hints during development of the method and for discussing the results." Orig. art. has: 5 figures, 1 table and 1 formula.
ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova, Moscow
(Physico-Chemical Institute)

SUBMITTED: 08Sep62

DATE ACQ:08Aug63
NO REF SOV: 008

ENCL: 00
OTHER: 008

SUB CODE: CH, EL

Card 2/2

VITING, A. I.

VAN SIN'-DE (Wang Hsin-té); VITING, A.I.

Bekhterev's hemitonia [with summary in French]. Zhur.nevr. i psikh.
57 no.5:610-614 '57. (MLRA 10:8)

1. Institut neurologii (dir. - prof. N.V.Konovalov) AMN SSSR,
Moskva

(MUSCLES, diseases,
hemitonia of Bekhterev caused by cystic form. of brain
(Bus))

(BRAIN, cysts,
causing hemitonia of Bekhterev (Bus))

VITING, A. I.; KONCHAKOVA, M. I.

Vascular lesions of the brain in rheumatism. Nauch. trudy Inst.
nevr. AMN SSSR no.1:512-530 '60. (MIRA 15:7)

1. Institut nevrologii AMN SSSR.

(CEREBROVASCULAR DISEASE) (RHEUMATIC FEVER)

VITING, A. I. (Moskva)

Morphological changes in the central nervous system in influenza.
Klin. med. no.9:49-55 '61. (MIRA 15:6)

1. Iz Instituta nevrologii AMN SSSR (dir. - deystvitel'nyy chlen
AMN SSSR prof. N. V. Konovalov) i kafedry nervnykh bolezney
(zav. - prof. N. S. Chetverikov) Tsentral'nogo instituta us-
vershenstvovaniya vrachev.

(INFLUENZA) (NERVOUS SYSTEM--DISEASES)

VITING, A. I.

VITING, A. I.: "The morphological characteristics of Teschen disease under experimental conditions, and its relationship to poliomyelitis". Moscow, 1955. Acad Med Sci USSR. (Dissertations for the degree of Candidate of Medical Science.)

SO: Knizhnaya Letopis' No. 50 10 December 1955. Moscow.

ROBINZON, Ya.; BIBIKOVA, A. F.; PAPOVA, L. M.; VITIEL, A. I.; YADVINSKAYA, A. L.

Poliomyelitis

Some characteristics of the histopathology of experimental poliomyelitis. Zhur.
nevr. i psikh. 53, No. 3, 1953.

Monthly List of Russian Accessions, Library of Congress, June 1953. Uncl.

BREGER, A.Kh.; ORMONT, B.F.; VITING, B.I.; GRIZHKO, V.M.; KOZLOV, V.A.;
KUTSEV, V.S.; CHAPYZHNIKOV, B.A.; CHEPEL', L.V.

Radioactivation method of determining oxygen in semiconducting
materials and metals on the basis of the photonuclear reaction
 $^{16}\text{O}(\gamma, n)^{15}\text{O}$. Trudy kom.anal.khim. 10:137-141 '60. (MIRA 13:8)

1. Fiziko-khimicheskiy institut im. L.Ya.Karpova, Moskva.
(Oxygen--Analysis)
(Oxygen--Isotopes)
(Semiconductors--Oxygen content)

Viting, B. I.

78-3-30/35

AUTHORS: Breger, A. Kh, Ormont, B. F., Kutsev, V. S.,
Viting, B. I. and Chapyzhnikov, B. A.

TITLE: The Use of Brake Radiation of a Betatron for
Characterizing the Oxygen Content of Semi-Conductors
and Metallic Materials (Particularly Titanium Oxy-
Carbides). (Ob ispol'zovanii tormoznogo izlucheniya
betatrona dlya kharakteristiki sodержaniya kisloroda
v poluprovodnikovyykh i metallicheskih materialakh
(v chastnosti, v oksikarbidakh titana)

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1957, Vol.II, Nr.3,
pp. 696-699. (USSR)

ABSTRACT: This is a preliminary report on the development of a
radio-activational method for determining non-metallic
impurities in metals and semi-conductors. The
possibility of determining oxygen in the system Ti-C-O
from the reaction $^{16}\text{O}(\gamma, n)^{15}\text{O}$ with the use of brake
radiation from a betatron has been demonstrated.
Preliminary calibration curves for preparations with not
less than 1% oxygen have been constructed. The method
Card 1/2 is non-destructive and requires about 10 min per

78-3-30/35

The Use of Brake Radiation of a Betatron for Characterizing
the Oxygen Content of Semi-Conductors and Metallic Materials...

determination. There is 1 figure and 7 references,
of which 4 are Slavic.

ASSOCIATION: The Physico-Chemical Institute imeni L. Ya.
Karpov. (Fiziko-khimicheskiy Institut im. L. Ya.
Karpova.)

SUBMITTED: August 15, 1956.

AVAILABLE: Library of Congress.

Card 2/2

S/120/62/000/002/003/047
E039/E420

AUTHORS: Chepel', L.V., Viting, B.I., Chapyzhnikov, B.A.

TITLE: Exposure inside the accelerating space of a betatron

PERIODICAL: Priory i tekhnika eksperimenta, no.2, 1962, 23-26

TEXT: For a series of physical and physicochemical investigations it was necessary to significantly increase the specific induced activity of samples exposed in a betatron or synchrotron. Samples are normally placed outside the accelerator at a distance of not less than 20 to 30 cm from the target. In this paper two new methods are described for exposing solid and liquid samples inside the working space of a betatron giving an increase in the specific induced activity of 20 to 100 times. The first method makes use of an internal pocket with dispersion foils and is a modification of a previously described method. The pocket consists of a glass tube of 30 mm bore with a flat topped platinum cap at one end attached by means of a Kovor collar. At the other end of the tube is a vacuum seal for mounting the pocket in the apparatus. Eddy current heating is insignificant; an equilibrium temperature of 70°C being obtained. The glass tube
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Exposure inside the ...

S/120/62/000/002/003/047
E039/E420

is coated with an earthed layer of "Aquadag". The effect of the dispersion foils on the distribution of the electron beam is examined by means of autoradiographs of exposed single crystals of rock salt. The second method makes use of two glass tubes which terminate in a small volume ~ 2 cc in the working space of the betatron and can be used to expose liquids to the fast electron beam. Both methods can be used for obtaining small quantities of artificial isotopes and also for exposing a series of materials to fast electrons without stopping the betatron. Absolute values of the induced activity for plates of Cu^{64} volume $10 \times 10 \times 0.5 \text{ mm}^3$ exposed in the pocket are $\sim 0.5 \mu$ curies with a radiation intensity of 50 rpm at a distance of 1m from the target. These methods are used for the radioactivation analysis of metals, semiconductors and some hydrocarbons and polymers. There are 8 figures and 1 table. ✓

ASSOCIATION: Fiziko-khimicheskiy institut (Institute of Physics and Chemistry)

SUBMITTED: June 7, 1961

Card 2/2

CHEPEL', L.V.; CHAPYZHNIKOV, B.A.; VITING, B.I.

Radioactivation method for determining oxygen in some polymers.
Zhur.anal.khim. 18 No.7:865-872 J1 '63. (MIRA 16:11)

1. L.Ya.Karpov Institute of Physical Chemistry, Moscow.

VITING, B.I.
BREGER, A.Kh.; ORMONT, B.F.; KUTSEV, V.S.; VITING, B.I.;
CHAPYZHNIKOV, B.A.

Use of betatron bremsstrahlung for determining the characteristics
of oxygen content in semiconductors and metals (in particular in
titanium oxycarbides). Zhur. neorg. khim. 2 no.3:696-699 Mr '57.
(MLBA 10:5)

1. Fiziko-khimicheskiy institut im. L.Ya. Karpova.
(Radiochemistry) (Titanium carbides)

VITING, B.I.

"Use of the Bremsstrahlung of a Betatron for the Characterization of the Oxygen Content in Semiconductor and Metallic Materials (Specifically Titanium Oxycarbides)," by A. Kh. Breger, B. F. Ormont, V. S. Kutsev, B. I. Viting, and B. A. Chapuzhnikov, Physicochemical Institute imeni L. Ya. Karpov, Zhurnal neorganicheskoy Khimii, Vol 2, No 3, Mar 57, pp 696-699

The problem of the development of a radioactivation method to determine nonmetallic impurities (particularly oxygen) in metals and semiconductors has been studied. It has been shown that it is possible to determine the oxygen present in the system Ti - C - O on the basis of the reaction $^{16}\text{O}(\gamma, n)^{15}\text{O}$ by using the Bremsstrahlung of a betatron. The advantages of the method in question are (1) the short time needed for the determination (~10 min), (2) the possibility of making repeated determinations on the same sample, and (3) preservation of the sample being analyzed.

The intensity of the Bremsstrahlung available from the betatron of the Physicochemical Institute imeni L. Ya. Karpov has made it possible to devise a preliminary calibration scale for samples with an oxygen content no lower than 1%. Work aimed at improving the sensitivity of the method and at increasing the precision of determinations is being continued. (U)

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CHEPEL', L.V.; VITING, B.I.; CHAPYZHNIKOV, B.A.

Irradiation inside the accelerating chamber in a betatron. Prib.
i tekhn. eksp. 7 no.2:23-26 Mr-Apr '62. (MIRA 15:5)
(Betatron)

VITING, L.M.; KHOMYAKOV, K.G.

Interaction of ferrites with molten salts and metal oxides.
Vest. Mosk. un. Ser. 2: Khim. 18 no.5:39-40 S-O '63.

1. Kafedra obshchey khimii Moskovskogo universiteta. (MIRA 16:11)

VITING, L.M.; KHOMYAKOV, K.G.

Nature of the interaction of some ferrites with lead oxide.
Vest.Mosk.un. Ser.2:Khim. 18 no.6:74 N-D '63. (MIRA 17:4)

1. Kafedra obshchey khimii Moskovskogo universiteta.

VITKO, I.A.

Automatic device for the determination of the Curie point.
Zav. lab. 30 no.5:631 '64. (MIRA 17:5)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

L 30228-66 EWP(k)/EWT(d)/EWT(m)/T/EWP(l)/EWP(t)/ETI IJP(c) WW/JD/JG

ACC NR: AP6013826

(A)

SOURCE CODE: UR/0189/65/000/006/0069/0070

AUTHOR: Viting, L. M.; Golubkova, G. P.ORG: Chair of General Chemistry, Moscow State University (Kafedra obshchey khimii, Moskovskiy gosudarstvennyy universitet)

TITLE: Interaction of ferrites with molten bismuth trioxide

SOURCE: Moscow. Universitet. Vestnik. Seriya II. Khimiya, no. 6, 1965, 69-70

TOPIC TAGS: ferrite, bismuth compound, nickel compound, iron compound, cobalt compound, thermal analysis

ABSTRACT: In order to determine whether molten Bi_2O_3 can be used as a solvent for preparing ferrite single crystals, the quasi-binary systems $\text{Bi}_2\text{O}_3\text{-CoFe}_2\text{O}_4$ and $\text{Bi}_2\text{O}_3\text{-NiFe}_2\text{O}_4$ were investigated by thermal analysis (heating and cooling curves), the visual polythermal method, and microstructural and chemical analyses. A phase diagram of the $\text{Bi}_2\text{O}_3\text{-CoFe}_2\text{O}_4$ system was plotted on the basis of the thermal analysis. Ferrite crystals were found in the hypereutectic region. Chemical analysis of hypereutectic alloys, performed after dissolving Bi_2O_3 in hot HNO_3 , showed that the composition of the crystals of the second phase, insoluble under these conditions, corresponds to the formula CoFe_2O_4 . Both the microstructural and chemical analysis confirmed the phase diagram obtained. The $\text{Bi}_2\text{O}_3\text{-NiFe}_2\text{O}_4$ system was found to have a eutectic at 795°C and

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UDC: 536.7

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ACC NR: AP6013826

9 mol % NiFe_2O_4 . The data obtained indicate that Bi_2O_3 can be proposed as a new solvent for growing ferrite single crystals. Orig. art. has: 2 figures.

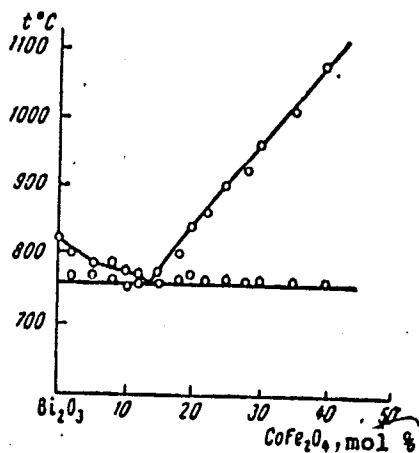


Fig. 1. Phase diagram of the quasi-binary system Bi_2O_3 - CoFe_2O_4 .

SUB CODE: 20,07/ SUBM DATE: 17Apr65/

ORIG REF: 003

Card 2/2 11C

L 7901-66 EWT(m)/T/EMP(t)/EMP(e)/EMP(d)/EDA(c) IPAC 35/10

ACC NR: AP5027908

SOURCE CODE: UR/0189/65/000/005/0055/0057

AUTHOR: Viting, L. M.; Golubkova, G. P.

ORG: Department of General Chemistry, Moscow State University, (Kafedra obshchey khimii Moskovskogo gosudarstvennogo universiteta)

TITLE: Interaction of ferrites with lead phosphate melts

SOURCE: Moscow, Universitet. Vestnik. Seriya II. Khimiya, no. 5, 1965, 55-57

TOPIC TAGS: ferrite, lead compound, nickel compound, iron compound, phosphate

ABSTRACT: The quasi-binary systems $Pb_3(PO_4)_2$ - $NiFe_2O_4$ and $Pb_2P_2O_7$ - $NiFeO$ are studied by thermal analysis (with recording of heating curves by means of a Kurnakov pyrometer), the visual-polythermal method, microstructural and chemical analyses, and determination of the Curie points of the ferrite crystals obtained. The phase diagram of $Pb_3(PO_4)_2$ - $NiFe_2O_4$ (Fig. 1), obtained from thermal analysis data, shows that nickel ferrite

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UDC: 538.245:548.55:546.185.817

L 7931-66

ACC NR: AP5027908

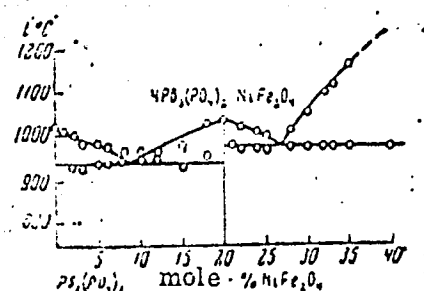


Fig. 1 Phase diagram of quasi-binary system $\text{Pb}_3(\text{PO}_4)_2\text{-NiFe}_2\text{O}_4$

and lead orthophosphate form a chemical compound $4\text{Pb}_3(\text{PO}_4)_2 \cdot \text{NiFe}_2\text{O}_4$ which melts congruently at 1035°C and forms eutectics with lead orthophosphate (940°C and 8.5 mole % ferrite) and nickel ferrite (975°C and 27 mole % ferrite). The phase diagram of $\text{Pb}_2\text{P}_2\text{O}_7\text{-NiFe}_2\text{O}_4$

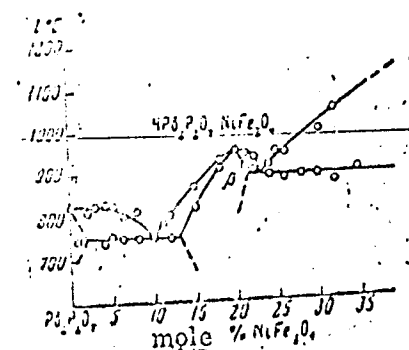


Fig. 2 Phase diagram of quasi-binary system $\text{Pb}_2\text{P}_2\text{O}_7\text{-NiFe}_2\text{O}_4$

(Fig. 2) shows that lead pyrophosphate and nickel ferrite form the chemical compound $4\text{Pb}_2\text{P}_2\text{O}_7 \cdot \text{NiFe}_2\text{O}_4$ which melts congruently at 950°C, forms a solid solution (β) with an excess of its components and eutectics with a solid solution (α) based on $\text{Pb}_2\text{P}_2\text{O}_7$ (750°C and 10 mole % ferrite) and with nickel ferrite (895°C and 23 mole % ferrite).

Card 2/3

L 7931-66

ACC NR: AP5027908

Thus, lead phosphates can be used as new solvents for growing ferrite single crystals within concentration and temperature intervals readily determinable from phase diagrams of the corresponding systems. Orig. art. has: 4 figures.

SUB CODE: SS, MM / SUBM DATE: 25Dec64 / ORIG REF: 005

PC

Card 3/3

VITING, L.M.

Preparation of ferrite single crystals by isothermal evaporation of the solvent. Vest. Mosk. un. Ser. 2:Khim. 20 no.4:54-56
Jl-Ag '65. (MIRA 18:10)

1. Kafedra obshchey khimii Moskovskogo gosudarstvennogo universiteta.

VITING, L.M.; GOLUBKOVA, G.P.

Interaction between ferrites and molten bismuth trioxide.
Vest. Mosk. un. Ser. 2: Khim. 20 no.6:69-70 N-D '65.

(MIRA 19:1)

1. Kafedra obshchey khimii Moskovskogo universiteta. Submitted
April 17, 1965.

VITING, L.M.; KHOMYAKOV, K.G.; GOLUBKOVA, G.P.

Reaction of ferrites with fused salts and metallic oxides. Vest.Mosk.
un.Ser.2:Khim. 19 no.4:51-53 J1-Ag '64.

(MIRA 18:8)

1. Kafedra obshchey khimii Moskovskogo universiteta.

VITING, L.M.; KHOMYAKOV, K.G.

Interaction of ferrites with fused salts and metal oxides. Vest.
Mosk. un. Ser. 2: Khim. 20 no.2:60-62 Mr-Apr '65. (MIRA 18:7)

1. Kafedra obshchey khimii Moskovskogo universiteta.

SOV/137-57-11-22237 D

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 11, p 225 (USSR)

AUTHOR: Viting, L.M.

TITLE: An Investigation of Alloys in the Iron-Nickel-Cobalt System in the Interval of the Metallic Compounds Ni_3Fe and FeCo (Issledovaniye splavov sistemy zhelezo-nikel'-kobal't v oblasti metallicheskih soyedineniy Ni_3Fe i FeCo)

ABSTRACT: Bibliographic entry on the Author's dissertation for the degree of Candidate of Chemical Sciences, presented to the MGU (Moscow State University), Moscow, 1957. Ref. also RZhMet, Nr 11, 22234

ASSOCIATION: MGU (Moscow State University), Moscow

Card 1/1

VITING, L. M. Cand Chem Sci -- (diss) ^{of} ~~the~~ "Study of alloys in the
cobalt
ferro - nickel - ~~cobalt~~ system in the sphere of metallic compounds
Ni₃Fe and FeCo." Mos, 1957. 8 pp 20 cm. (Mos Order of Lenin and
Order of Labor Red Banner State Univ im M.V. Lomonosov. Chem faculty).
100 copies (KL, 22-57, 104)

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001860120006-7

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001860120006-7"

USSR/Thermodynamics - Thermochemistry. Equilibria.
Physical-Chemical Analysis. Phase Transitions.

B-8

Abs Jour : Referat Zhur - Khimiya, No 6, 1957, 18503

Author : A.T. Grigor'yev, L.A. Panteleymonov, L.M. Viting, V.V.
Kuprina.

Title : Study of System Copper - Cobalt.

Orig Pub : Zh. neorgan. khimii, 1956, 1, No 5, 1064-1066

Abstract : The system Cu - Co was studied by the methods of thermal analysis of microstructure and hardness (Brinell's method). The initial materials were electrolytic Cu and Co containing not more than 0.01% of C. Melting was carried out in a Kryptol furnace in corundum crucibles under BaCl₂ slag. The results of chemical analyses of the top and bottom sides of alloys do not confirm the bibliographic data concerning the solubility absence in the liquid state. No signs of foliation were discovered. A small addition of Cu to Co causes a sharp rise of the alloy hardness. The phase graph is attached.

Card 1/1

- 184 -

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R001860120006-7"

"APPROVED FOR RELEASE: 09/01/2001

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APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001860120006-7"

VITING, L.M.; KHOMYAKOV, K.G.

Interaction of ferrites with fused salts and metallic oxides.
Vest. Mosk. un. Ser. 2: Khim. 20 no.1:36-37 Ja-2 '65.

(MIRA 18:3)

1. Kafedra obshchey khimii Moskovskogo universiteta.

1. Title: Reaction of Ferrites with ...

TITLE: Reaction of Ferrites with ...

AUTHOR: Moscow, University, Institute of Ferrites ...

NOTE: Ferrite, metal, oxide, salt, ferrite ...

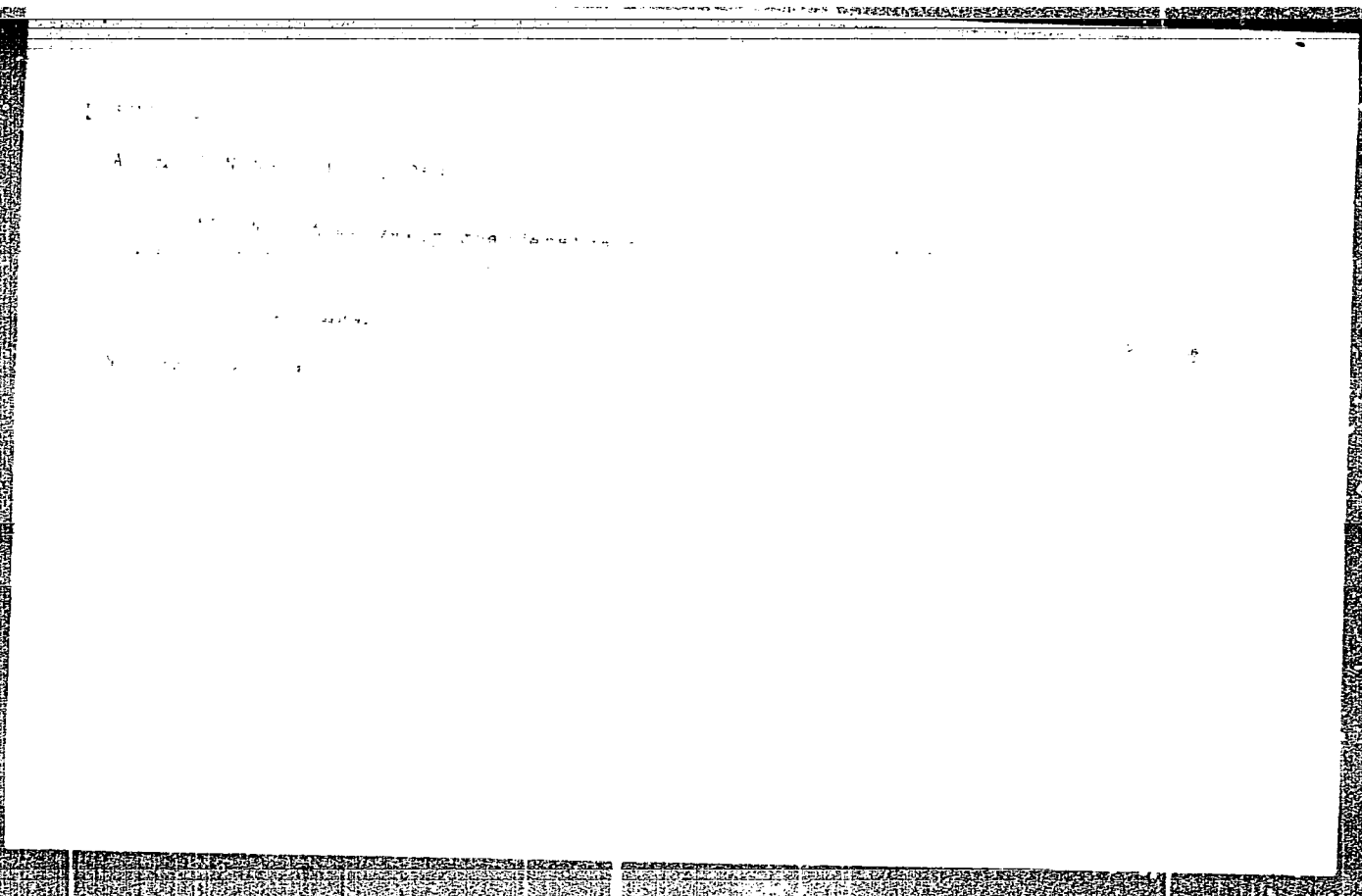
1. *Chlorophyll a* (Chl *a*)

1. *Phragmites australis* (Cav.) Trin. ex Steud.

It is not clear whether the authors intended to suggest that the use of the term "cognitive" is a necessary condition for the use of the term "cognitive-behavioral" or whether they intended to suggest that the use of the term "cognitive-behavioral" is a necessary condition for the use of the term "cognitive-behavioral therapy".

1. The first step is to identify the problem or question that needs to be answered. This involves understanding the context and the specific requirements of the task.

... ..



VITING, L.M.; GOLUBKOVA, G.P.

Interaction of ferrites with fused sodium meta and pyrovaradates. Vest. Mosk. un. Ser. 2:Khim. 20 no.4:50-53 J1-Ag '65.
(MIRA 18:10)

1. Kafedra obshchey khimii Moskovskogo gosudarstvennogo universiteta.

VITING, L.M.

Category : USSR/Solid State Physics - Systems

E-4

Abs Jour : Ref Zhur - Fizika, No 2, 1957 No 3779

Author : Grigor'ev, A.T., Panteleymonov, L.A., Viting, L.M., Kuprina, V.V.
Title : Investigation of the Copper-Cobalt System.

Orig Pub : Zh. neorgan. khimii, 1956, 1, No 5, 1064-1066

Abstract : The diagram of state of Cu-Co was revised on the basis of data on its thermal analysis, microstructure, and hardness. No discontinuity was observed in the solubility in the liquid state.

Card : 1/1

VITING, L.M.

Investigating the system iron--nickel--cobalt in the range of Ni_3Fe and FeCo intermetallic compounds. Part 1. The intermetallic Ni_3Fe compound and its range in the iron--nickel system. Zhur.neorg.khim. 2 no.2:367-374 F '57. (MLRA 10:5)

1.Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova, Laboratoriya khimii metallicheskih splavov.
(Iron-nickel-cobalt alloys)

VITING, L.M.

Investigating the system iron--nickel--cobalt in the range of Ni_3Fe and FeCo intermetallic compounds. Part 2. Existence range of the Ni_3Fe intermetallic compound in the ternary system of iron--nickel--cobalt. Zhur. neorg.khim. 2 no.2:375-382 P '57. (MLRA 10:5)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova,
Laboratoriya khimii metallicheskih splavov.
(Iron-nickel-cobalt alloys)

VITING, L.M.

1. *Сведения о деятельности координатора Н.И.Ф.*

VITING, E.M.

572

AUTHOR: Viting, L.M.

TITLE: Investigation of the System Iron - Nickel - Cobalt in the Field of the Metallic Ni_3Fe and FeCo . I. The Metallic Compounds Ni_3Fe and the Field of Its Existence in the System Iron - Nickel. (Issledovanie Sistemy Zhelezo-Nikel'-Kobal't v Oblasti Metallicheskikh Soedineniy Ni_3Fe i FeCo . I. Metallichesкое Soedinenie Ni_3Fe i oblast' evb Suxhchestvovaniya v Sisteme Zhelezo-Nikel'.)

PERIODICAL: "Zhurnal Neorganicheskoy Khimii" (Journal of Inorganic Chemistry) Vol.II, No.2, pp.367-374. (U.S.S.R.).

ABSTRACT: In this work, which was directed by A.T.Grigor'ev, alloys prepared in a high frequency furnace from electrolytic nickel and iron prepared by reduction with hydrogen was studied by a variety of methods. The alloys contained less than 0.01% of carbon. From the results of thermal analysis, microstructural investigation, Vickers hardness determinations, determinations of electrical resistivity and its temperature coefficient and also by measuring the resistivity at high temperatures the phase diagram for the system iron - nickel in the range of the metallic compound Ni_3Fe has been constructed. At 4000C the field extends from 60 to 83 atomic % Ni; a homogeneous region lying between 72 and 77 atomic % Ni exists inside the 2-phase field.

Card 1/2

Investigation of the System Iron - Nickel - Cobalt in the Field
of the Metallic Ni_3Fe and FeCo . I. The Metallic Compound Ni_3Fe
and the Field of Its Existence in the System Iron - Nickel. (Cont.) 572

The field of existence of the metallic compound Ni_3Fe is not
symmetrical about the ordinate of this compound. Results ob-
tained indicate that the nature of the transformation is
heterogeneous.

There are twenty references, three of them Russian.

6 Figures, 1 Table.

The work was carried out at the Moscow State University,
imeni M.V. Romonosova, Metallic-Alloys Chemistry Laboratory.

Received 24 October, 1956.

Card 2/2

573

AUTHOR: Viting, L.M.
 TITLE: Investigation of the System Iron-Nickel-Cobalt in the Field of the Metallic Compounds Ni_3Fe and FeCo . II. Field of Existence of the Metallic Compound Ni_3Fe in the ternary system iron-nickel-cobalt. (Issledovanie Sistemy Zhelezo-Nikel'-Kobal't v Oblasti Metallicheskih Soedineniy Ni_3Fe i FeCo . II. Oblast' Sushchestvovaniya Metallicheskovo Soedineniya Ni_3Fe v troynoy sisteme zhelezo-nikel'-kobal't).
 PERIODICAL: "Zhurnal Neorganicheskoy Khimii" (Journal of Inorganic Chemistry) Vol. II, No. 2, pp. 375-382. (U.S.S.R.)
 ABSTRACT: In the present investigation annealed and hardened alloys of nickel, iron and cobalt corresponding to the section with a constant Ni : Fe ratio (atomic %) of 3 : 1 and also to sections parallel to the side Fe-Ni (with constant content of 2, 5, 8, 12, 15 and 20 atomic % Co) were studied. The alloys were prepared from powders obtained by hydrogen reduction and were melted in a vacuum furnace. The carbon content did not exceed 0.01 %. Some of the alloys, however, were obtained in an induction furnace under a layer of barium chloride, and in this case the starting materials were Armco iron, and electrolytic nickel and cobalt. The methods used for studying the alloys were determinations of Vickers hardness, of electrical resistivity and its temperature coefficient, microstructural

Card 1/2

Investigation of the System Iron-Nickel-Cobalt in the Field of the Metallic Compounds Ni_3Fe and FeCo . II. Field of Existence of the Metallic Compound Ni_3Fe in the ternary system iron-nickel-cobalt. (Cont.)

investigations and measurements of resistivity at high temperatures. A phase diagram for the system corresponding to the section with a 3 : 1 Ni : Fe ratio and an isothermal (400°C.) section of the ternary phase diagram, has been constructed.

There are eight references, four of them Russian.

5 Figures, 2 Tables.

The work was carried out at the Moscow State University imeni M.V. Lomonosova, in the Metallic-Alloys Chemistry Laboratory.

Received 24 October, 1956.

Card 2/2

GRIGORY'YEV, A.T.; PANTELEYMONOV, L.A.; VITING, L.M.; KUPRINA, V.V.

Study of the system: copper -- cobalt. Zhur.neorg.khim. 1 no.5:
1064-1066 My '56. (MLRA 9:10)

(Copper-cobalt alloys)

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001860120006-7

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001860120006-7"

VITEBSKIY, YA. D.

PA 18/49T36

USSR/Medicine - Penicillin
Medicine - Peritonitis

Nov 48

"Penicillin Therapy for Acute Suppurative
Peritonitis," Ya. D. Vitebskiy, Surg Dept, Kurgan
Oblast Hosp, 2 pp

"Khirurgiya" No 11

Gives brief particulars of patients operated upon
for suppurative peritonitis to whom penicillin was
administered intra-abdominally. Concludes that
method is very effective, especially in cases of
neglected suppurative peritonitis. Evidently
penicillin injected intra-abdominally is absorbed
more slowly than from subcutaneous cellular tissue
FJB 18/49T36

USSR/Medicine - Penicillin (Contd)

Nov 48

and muscles and acts longer, thus gaining time
necessary for organism to mobilize its defense
resources. Penicillin can be successfully used
intra-abdominally for prophylaxis of peritonitis.
Injection of penicillin into abdominal and
subcutaneous interstitial tissue enabled a high
percentage of abdominal wounds to be healed by
primary tension.

FJB

18/49T36

... .., ra.D., zavednyushiy (Kurgan).

Autoplastic replacement of cranial defects with costal cartilage. Vop.
neirokhir. 17 no.2:55-56 Mr-Apr '53. (MLRA 6:5)

1. Khirurgicheskoye otdeleniye Kurganskoy oblastnoy bol'nitsy.
(Head--Surgery)

VITEBSKIY, Ya.D., kandidat meditsinskikh nauk.

Conservative therapy of subdiaphragmatic abscess. Sov.med. 17
no.12:26-27 D '53. (MLRA 6:12)

1. Iz khirurgicheskogo otdeleniya Kurganskoy oblastnoy bol'nitsy.
(Diaphragm--Abscesses)

VITBSKIY, Ya. D.

VITBSKIY, Ya. D. "On the convolutions of the appendix", Vracheb. delo, 1948, No. 12, paragraphs 1065-68.

SO: U-3042, 11 March 53, (Letopis 'nykh Statey, No. 10, 1949).

s/035/62/000/005/055/098
A055/A101

AUTHOR: Vitinskiy, O. I.

TITLE: Prediction of quarterly Wolf numbers up to the end of the 19th solar cycle

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 5, 1962, 58, abstract 5A426 ("Solnechnyye dannyye", 1960 (1961), no. 11, 66 - 69)

TEXT: The Herrink method, based on the assumption of the existence of a 169-year cycle, is used, after some modifications, for the prediction of the quarterly Wolf-numbers up to the end of the cycle no. 19. Cycles-analogs are examined. The predicted Wolf numbers are presented by quarters for the years 1961 to 1965:

Quarter	1961	1962	1963	1964	1965
I	88	62	67	38	21
II	86	87	52	38	
III	64	60	37	35	
IV	81	66	39	40	

Card 1/2

Prediction of quarterly Wolf numbers...

8/035/62/000/005/055/098
A055/A101

It is pointed out that the Wolf numbers for 1964 - 1965 are apparently somewhat overestimated..

✓

T. Mandrykina

[Abstracter's note: Complete translation]

Card 2/2

VITINSKIY, Yu. I.

25-12-15/39

AUTHOR: Vitinskiy, Yu.I., Scientific Worker of the Main Astronomical Observatory (Pulkovo)

TITLE: The Explorations of the Sun Are Being Continued. (Issledovaniya Solntsa prodolzhayutsya)

PERIODICAL: Nauka i Zhizn', 1957, # 12, pp 17-19, (USSR)

ABSTRACT: Scientists use the so-called Wolf figure for describing solar spots, while Waldmayer's classification is used for structural classification of the groups of solar spots. At the present time, during the International Geophysical Year, all observatories of the world determine the Wolf figure daily, the extent of the spots and their classification, as well as the magnetic fields of individual solar spots. The author mentions flocculi and chromospheric eruptions, whose measurements were made possible by the invention of a photoelectric photometer by the Soviet scientist N.D. Glukhov, as well as the protuberances and eruptive fibers, solar corona, magnetic fields and radio radiation of the sun. In 1956, photographs of coronal green and red lines were obtained at the Main Observatory at Pulkovo (Glavnaya observatoriya Pulkovo) by a coronagraph designed by I.A. Prokof'yev. Regular

Card 1/2

The Explorations of the Sun Are Being Continued

25-12-15/39

observations of these lines are conducted at the present time.

At the end of last year 2 infra-red coronal lines were examined in the USSR. These examinations were carried out with the aid of an electro-optical transformer, which transformed the infra-red radiation into light of the visible spectrum. Studies of 1,5 m radio waves, which seem to originate from the corona, have been conducted for some time. Regular observations during the past years were made of 10 cm waves which are likely to originate from the chromosphere of the sun. A curved polarization of radio radiation was recently observed at Pulkovo for the first time. This polarization was associated with several groups of solar spots. Somewhat later examinations of distortions of the center of the sun's radiation of 3 m waves were started. Registration devices, installed in the second Soviet satellite to examine short wave radiation, will enable to determine ultra-violet radiation as well as the flow of corpuscles from the sun before entering the earth's atmosphere

There are 6 figures.

ASSOCIATION: Main Astronomical Observatory at Pulkovo (Glavnaya astronomicheskaya observatoriya (Pulkovo))
Library of Congress

AVAILABLE:
Card 2/2

VITINSKIY, Yu., nauchnyy sotrudnik

News from the capital of astronomy. IUn. tekhn. 3 no.11:18-22 N '58.
(MIRA 11:12)

1. Pulkovskaya observatoriya.
(Leningrad--Astronomy)

88825

S/035/61/000/002/010/016
A001/A001

3,1540 (1062, 1128, 1168)

Translation from: Referativnyy zhurnal, Astronomiya i Geodeziya, 1961, No. 2,
pp. 54 - 55, # 2A446

AUTHORS: Vitinskiy, Yu.I., Ikhsanov, R.N.

TITLE: On the Problem of Determining the Epochs of Extre~~m~~a of Sunspot
Cycles

PERIODICAL: "Solnechnyye dannyye", 1960, No. 1, pp. 71 - 75

TEXT: The authors propose a new method of determining the epochs of ex-
trema of solar cycles from Wolf numbers found by observations. They plot curves
on the basis of maximum and minimum points of the cyclic curve plotted by Wolf
numbers. The peak-points of the both curves determine the epoch of the maximum
of the cycle, the lowest ones - the epoch of the minimum. The authors present a
table showing the satisfactory agreement between the Zurich data and the results
obtained by themselves. In correspondence with the minimum duration of Wolf
number fluctuations, being equal to 3 months, they determine the epochs of ex-

Card 1/2

88825

S/035/61/000/002/010/016
A001/A001

On the Problem of Determining the Epochs of Extrema of Sunspot Cycles

trema in solar cycles with an accuracy up to one quarter of year. It is pointed out that an analysis of observational material by hemispheres is necessary for the further improvement in determination of the epochs of extrema of sunspot cycles.

T. Mandrykina

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

3.1540(1559)

29499

S/035/61/000/009/032/036

A001/A101

AUTHOR: Vitinskiy, Yu.I.

TITLE: On the problem of proper motions of sunspots in latitude

PERIODICAL: Referativnyy zhurnal. Astronomiya i Geodeziya, no. 9, 1961, 62, abstract 9A547 ("Solnechnyye dannyye", 1960, no. 3, 59 - 65)

TEXT: Considering proper motions of repeating groups of sunspots, appearing and disappearing at a distance of no more than $\pm 70^\circ$ from the central meridian, the author discovered the motion only toward the equator. Groups which appeared or disappeared in the zone ($l > 70^\circ$) have a tendency to move toward the equator from the lower latitudes and toward the pole from the higher latitudes. Duplicity of the results, qualitatively coinciding with the results of the previous authors, is explained by observational conditions. For proper motions of individual sunspots (appeared and disappeared at a distance not exceeding $\pm 70^\circ$), prevailing motion toward the pole is observed. It was established, on the basis of observations of individual sunspots of long-existing groups appeared and disappeared on the solar visible disk, that the magnitude of proper motions of sun-

Card 1/2

X

29499

S/035/61/000/009/032/036

A001/A101

On the problem of proper motions of sunspots ...

spots varies with the phase of the 22-year cycle. It is the greatest near the minimum of the cycle, and the least near the maximum. There are 6 references.

T. Mandrykina

[Abstracter's note: Complete translation]

Card 2/2

3.1540

S/035/61/000/010/024/034
A001/A101

AUTHOR: Vitinskiy, Yu.I.

TITLE: Index of fluctuations of Wolf numbers

PERIODICAL: Referativnyy zhurnal. Astronomiya i Geodeziya, no. 10, 1961, 61, abstract 10A431 ("Solnechnyye dannyye", 1960 (1961), no. 8, 70-75)

TEXT: The author presents the catalog of the monthly values of fluctuation index of Wolf numbers from 1755 to 1957. This index is defined as the ratio of observed monthly relative numbers of sunspots to smoothened ones which are taken from the cyclic curve plotted according to the annual values of Wolf numbers.

T. M.

[Abstracter's note: Complete translation]

Card 1/1

S/035/62/000/001/011/038
A001/A101

3.1540

AUTHOR: Vitinskiy, Yu. I.

TITLE: How to make a forecast of Wolf quarter numbers well in advance

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 1, 1962, 59,
abstract 1A453 ("Solnechnyye dannyye", 1960 (1961), no. 10, 75-79)

TEXT: The author points out two methods of forecasting Wolf quarter numbers by two quarters in advance. The first way is based on the forecast of ordinary and extraordinary (semi-annual Wolf numbers obtained by shifting semi-annuals by one quarter backward) Wolf semi-annual numbers and on the knowledge of corresponding quarter numbers; the second way is based on the forecast of semi-annual and quarter Wolf numbers. Eight methods may be used for forecasting by two quarters in advance, which represent combinations of the modified Mayo method, the Mayo method and the method of regressions for forecasting Wolf quarter numbers for the next quarter, and the regression method and Mayo's method for forecasting ordinary and extraordinary Wolf semi-annual numbers.

✓B

Card 1/2

How to make a forecast of Wolf ...

S/035/E2/000/001/011/03E
A001/A101

Corresponding equations of regression are presented. It is proposed to adopt the average from the values determined by different methods and taken with certain weights.

✓B

T. Mandrykina

[Abstracter's note: Complete translation]

Card 2/2

311540

S/169/61/000/001/005/011
A005/A001

Translation from: Referativnyy zhurnal, Geofizika, 1961, No. 1, p. 7, # 1G48

AUTHOR: Vitinskiy, Yu. I.

TITLE: The Methods of Medium-Earliness Forecast of Solar Activity

PERIODICAL: "Izv. Gl. astron. observ. v Pulkove", 1960, Vol. 21, No. 4, pp. 88-95
(English summary)

TEXT: The author states in his article the fundamental principles of the forecast methods for the smoothed out and observed Wolf numbers for a month and a quarter of year. These methods are based on the conception of Mayo and are virtually its modification. It is shown that the accuracy obtained in this way is fully satisfactory in virtue of the nature of the relative numbers of sunspots. In conclusion, the first results are presented on the correctness of the forecast of the quarterly and monthly Wolf numbers. ✓B

Author's summary

Translator's note: This is the full translation of the original Russian abstract.

Card 1/1

S/797/60/021/004 612/1

AUTHOR: Vitinskiy, Yu. I.

TITLE: On peculiarities in the longitudinal distribution of solar activity.

SOURCE: Pulkovo. Astronomicheskaya observatoriya. Izvestiya, v. 21, no. 1 (193), 96-105. Leningrad, 1960.

TEXT: The identification and surveillance of areas of solar activity is facilitated by the plotting of synoptic charts, similar to those currently employed in meteorology. A number of points assumed fixed on the solar surface are selected, and a prescribed index of solar activity will be examined at each such point. It is stipulated that for such a prescribed index there exists a continuous scalar field with a finite number of discontinuity points. Then we can draw a set of isolines to represent the field of a given index. Three difficulties arise in the application of this method to the sun: (1) We do not know of any indices of solar activity which admit a continuous field, with the possible exception of the magnetic fields of the sun spots which, however, are shown to be of little or no practical value; (2) over long periods of time, latitudinal distortions in the distribution of centers of activity may occur; (3) the differential rotation of various latitudinal bands will, over a long period of time, lead to a distortion in the longitudinal distribution of a given

Card 1/4

On peculiarities in the longitudinal distribution ...

S/197/60/021/004/502

index of solar activity. The first difficulty can be overcome by using not specific values of a certain index, but only their probability. The other two can be solved only a posteriori. The cycle of solar activity is used as the reference time interval. Since most groups of sun spots cover no more than 20° in latitude and 40° in longitude, such an area is divided into squares and 36 points are placed at the center of each square. As an initial index of solar activity we select the mean daily spottedness of each square for each revolution, i.e., the sum of the daily values of the areas of the groups of spots located on a given square, divided by 36, which is the maximum number of days of existence of a group on the visible hemisphere of the sun. We then summate this index for each square for a full cycle. Thus we have a quantity which we assume is proportional to the energy of solar activity that is released on a given area of the solar surface in the course of one cycle. We find that active centers remain at practically a constant longitude over 2 to 3 cycles. Any changes in longitude do not exceed 40° , i.e., one longitudinal step on our scale, and do not evince any specific, systematic direction. The existence of "active longitudes," in which there is a more intense activity than in neighboring longitudes and in which the Fay effect (latitudinal shear) is nonexistent, is confirmed, in agreement with Waldmeier's and Losh's earlier postulates. It is concluded that recurrent groups constitute the most distinctive population of the active longitudes. A second index of solar activity is constructed under the name

Card 2/4

On peculiarities in the longitudinal distribution...

SI 797/65/122156...

norical Observatory, Pulkovo).

SUBMITTED: August 1958.

Card 4/4

S/035/62/000/005/057/098
A055/A101

AUTHOR: Vitinskiy, Yu. I.

TITLE: On the possible parameters of the 20th and 21st solar cycles

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 5, 1962, 58,
abstract 5A428 ("Solnechnyye dannyye", 1961, no. 1, 76 - 80)

TEXT: In this article are presented the results of the prediction (by various authors) of the height and epochs of the extrema of cycle no. 20. It is pointed out that almost all investigators started from the assumption implying the existence of the 80 - 90-year cycle, whereas the present cycle is similar to the cycle of 1369 - 1378. It is also pointed out that several investigators consider as real the existence of a 600-year solar cycle. The author reaches the conclusion that the maximum Wolf number for cycle no. 20 will be equal to 100, and for cycle no. 21 to 126. The epochs of minimum correspond to the years 1965,2 and 1976,0, and the epochs of maximum to the years 1976,0 and 1979,4. There are 17 references.

T. Mandrykina

[Abstracter's note: Complete translation]

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38808

S/035/62/000/006/012/064
A001/A101

21540

AUTHOR: Vitinskiy, Yu. I.

TITLE: On kinematic coefficient of viscosity of the solar photosphere

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 6, 1962, 54 - 55, abstract 6A406 ("Solnechnyye dannyye", 1961, no. 6, 70 - 73)

TEXT: The author considers longitude distribution of viscosity kinematic coefficient and its change with time. The quantity $V = v^2 t$ is defined as kinematic coefficient, where t is mean life time of a group, v is mean turbulent velocity which is taken to be equal to mean proper motion of a sunspot group. Mean proper motions during 1902 - 1954 were calculated; they were averaged over 40° longitude intervals for 11-year cycle using a method analogous to J. Tuominen's method. The table of values of viscosity kinematic coefficient is presented for various longitude intervals (through 40°) and for various cycles (Nos. 14 - 18). It was assumed in calculations, carried out in zero approximation, that the mean life time of a group was essentially constant in various longitude intervals and various cycles. Fluctuations of the viscosity kinematic coefficient increase

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with the enhancement, for many years, of solar activity. Its mean magnitude decreases with the progressing of 80 - 90-year solar cycle. The mean kinematic coefficient decreases with the growth of the height of solar cycles, on assumption that the mean life time of a group grows linearly from the 14th to 18th cycle. It is possible that viscosity determines to a considerable degree the life time of sunspots. There are 9 references.

T. Mandrykina

[Abstracter's note: Complete translation]

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33622

S/035/62/000/001/013/038
A001/A101

3,1540 (also 1137)

AUTHOR: Vitinskiy, Yu.I.

TITLE: On some peculiarities in strong fluctuations of Wolf numbers

PERIODICAL: Referativnyy zhurnal. Astronomiya i Geodeziya, no. 1, 1962, 59-60,
abstract 1A455 ("Solnechnyye dannyye", 1960 (1961), no.9, 78-83)

TEXT: Strong fluctuations are defined as such which are beyond the limits of one standard deviation from the course of the curve of annual relative sunspot numbers. The catalog of strong fluctuations of the Wolf numbers for 1755-1954 was used. The presence of strong fluctuations of Wolf numbers in the first year before the epoch of solar cycle maximum and in the third year after this epoch, is characteristic for all cycles. The greater is the length of the growth branch of a given 11-year cycle, the higher values of coincidence of fluctuations and average number of fluctuations in this cycle. The author calculated a table enabling one to forecast, with accuracy to one year, the occurrence of strong fluctuations. It follows from the analysis of partial coefficients of association, that the density of fluctuations on the growth branch is determined by the length of this branch, and on the decrease branch - by the maximum Wolf number

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and the length of this branch. Consequently, the processes determining development of solar activity on the growth and decrease branches are of different nature and, apparently, pertain to different layers of the Sun. It is noted that during a more intensive solar cycle a lower density of strong fluctuations is observed on its growth branch, and vice versa. There are 9 references. ✓

T. Mandrykina

[Abstracter's note: Complete translation]

Card 2/2

S/797/61/022/002/006/007
E032/E114

AUTHOR: Vitinskiy, Yu.I.

TITLE: Some peculiarities or fluctuations in the relative sunspot numbers

SOURCE: Pulkovo. Astronomicheskaya observatoriya. Izvestiya. v.22, no.2 (167). 1961. 121-128

TEXT: A statistical analysis of fluctuations in the Wolf numbers for 1844 to 1957 (E.J. Chernosky and M.P. Hagar, J. Geophys. Res., v.63, no.4, 1958) is reported. The fluctuation index Δ used in this analysis is defined as equal to the ratio W_i/W'_i , where W_i is the observed mean monthly Wolf number and W'_i is the mean annual smoothed value of the Wolf number. Self-correlation calculations showed that there is no periodicity in the Wolf number fluctuations, so that they can be looked upon as independent processes. It is possible that they are due to processes occurring in the uppermost layers of the sun and are determined to a considerable extent by the viscosity distribution.

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This was confirmed by calculations using Alter's D-index.
Next, an analysis was made of the amplitude of the fluctuations
and it was found that the distribution was very asymmetric.
It is concluded that there are no grounds for supposing that
there are differences in Wolf number fluctuations on the
ascending and descending branches of the solar cycle.
There are 4 tables. ✓

SUBMITTED: March 1960

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